ABSTRACT

An intraocular correction lens and a method of designing such a lens. According to the invention the lens is capable of reducing aberrations of an eye after its implantation and it is adapted to be placed between the cornea and the capsular bag of the eye.

The method comprises according to the invention the steps of:

(i) measuring the wavefront aberration of the uncorrected eye using a wavefront sensor;

(ii) measuring the shape of at least one corneal surface in the eye using a corneal topographer;

(iii) characterizing the at least one corneal surface and a lens located in the capsular bag of the eye comprising said cornea as mathematical models;

(iv) calculating the resulting aberrations of said corneal surface(s) and the lens in said capsular bag by employing said mathematical models;

(v) selecting an optical power of the intraocular correction lens;

(vi) modeling the intraocular correction lens such that a wavefront arriving from an optical system comprising said intraocular correction lens and the mathematical models of said corneal and said lens in the capsular bag obtains reduced aberrations.